

REMARKS

Claims 62-72 and 85-89 have been canceled without prejudice or disclaimer. Claims 90-105 are added and therefore are pending in the present application. Claims 90-104 are supported throughout the specification, including the original claims.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. The Rejection of Claims 62-72 and 85-89 under 35 U.S.C. 103

The Office maintained the rejection of claims 62-72 and 85-89 are rejected under 35 U.S.C. 103 as being unpatentable over Wang (U.S. Application Publication No. 2002/0007516) in view of Schneider et al. (U.S. Patent No. 6,165,761). This rejection is respectfully traversed for the reasons of record.

Wang discloses a one step method for the treatment of a non-finished textile component is provided. The method comprises the combination of a bleaching and de-sizing treatment steps into a single step and comprises treating a non-finished textile component in an aqueous treatment solution of a hydrophobic bleaching system and a de-sizing system. As described in paragraph [0041], preferred hydrophobic bleaching systems are combinations of hydrogen peroxide and a hydrophobic bleach activator or a hydrophobic peracid. Preferred bleach activators include the alkanoyloxybenzene sulfonates and in particular noanoyloxybenzene sulfonate.

However, Wang does not teach or suggest the use of a carbohydrate oxidase in the bleaching of a fabric, fiber, or yarn, as claimed herein.

Schneider et al. disclose a carbohydrate oxidase obtained from *Microdochium* and its use in baking. However, Schneider et al. also do not teach or suggest a process for manufacturing a textile using a carbohydrate oxidase, wherein the carbohydrate oxidase is active towards at least arabinose, cellobiose, fructose, galactose, alpha-glucose, beta-glucose, lactose, maltose, mannose, and xylose.

There are many carbohydrate oxidases which produce hydrogen peroxide, however, there is no suggestion that a carbohydrate oxidase with broad specificity would be more advantageous in a textile manufacturing process. Because Applicants' process uses a carbohydrate oxidase which is active against arabinose, cellobiose, fructose, galactose, alpha-glucose, beta-glucose, lactose, maltose, mannose, and xylose, the bleaching process is more efficient. These results are not predicted by the prior art, and therefore are surprising and unexpected.

Applicants previously submitted a Declaration under 37 C.F.R. 1.132 of Dr. Yucheng Zhou, which describes experiments conducted under his direction and supervision, to compare the bleaching performance of an *Aspergillus niger* glucose oxidase (GOX) and a *Microdochium nivale* carbohydrate oxidase (COX) on knitted fabric and woven fabric. The Declaration demonstrated that the *Microdochium nivale* carbohydrate oxidase (COX) has a better bleaching performance than the *Aspergillus niger* glucose oxidase (GOX). Dr. Zhou stated that the results of these experiments are “surprising and unexpected.”

In response to the Zhou Declaration, the Office stated that the declaration “only provides unexpected data for the specific *M. nivale* carbohydrate oxidase and not the genus of all carbohydrate oxidases claimed....” This is respectfully traversed.

Examples 5 and 6 of the application demonstrate that the *Microdochium nivale* carbohydrate oxidase (COX) has broad specificity. In particular, the *Microdochium nivale* carbohydrate oxidase (COX) is active against arabinose, cellobiose, fructose, galactose, alpha-glucose, beta-glucose, lactose, maltose, mannose, and xylose. Because of its broad specificity, the *Microdochium nivale* carbohydrate oxidase (COX) has a better bleaching performance than oxidases that have less specificity such as glucose oxidase. Applicants therefore submit that persons skilled in the art would expect that the genus of carbohydrate oxidases having activity against at least arabinose, cellobiose, fructose, galactose, alpha-glucose, beta-glucose, lactose, maltose, mannose, and xylose would also have improved bleaching performance compared to glucose oxidases. Applicants therefore submit that Applicants’ showing of surprising and unexpected results is commensurate with the scope of the claims.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103. Applicants respectfully request reconsideration and withdrawal of the rejection.

II. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

All required fees were charged to Novozymes North America, Inc.'s Deposit Account No. 50-1701 at the time of electronic filing. The USPTO is authorized to charge this Deposit Account should any additional fees be due.

Respectfully submitted,

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